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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,553	10/31/2003	Tomokazu Yuasa	026304-0212	9930

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FOLEY & LARDNER  
2029 CENTURY PARK EAST  
SUITE 3500  
LOS ANGELES, CA 90067

EXAMINER

AL NAZER, LEITH A

ART UNIT PAPER NUMBER

2821

DATE MAILED: 04/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/698,553

**Applicant(s)**

YUASA ET AL.

**Examiner**

Leith A. Al-Nazer

**Art Unit**

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-16 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9, 14-16 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 4 and 10-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 22 is objected to because of the following informalities:

Claim 22 recites "...wherein the certain is a central part of the headband". This phrase is incomplete. The examiner believes the phrase should be re-worded "...wherein the certain position is a central part of the headband".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 5, 6, 18, and 20-22 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent No. 6,356,773 to Rinot.

With respect to claim 1, Rinot teaches a communication apparatus, comprising a speaker (248); a headband (106, 242) which connects to the speaker (248) at an end thereof (figure 10); a wireless communication module (162 in figure 8) coupled to the speaker (column 2, lines 34-60); and an antenna (244) arranged at a certain position on the headband (figure 10), and coupled to the wireless communication module via a

Art Unit: 2821

cable (166, 168, and 170 in figure 8; column 2, lines 34-60), wherein the certain position is different from the end of the headband that connects to the speaker (figure 10).

With respect to claim 5, Rinot teaches the antenna (244) being arranged on a higher portion in the headband than the speaker (248) in a condition under which the communication apparatus is used (figure 10).

With respect to claim 6, Rinot teaches the headband having an arc portion (figure 10), and the certain position on which the antenna is mounted is in the arc portion (figure 10).

With respect to claim 18, Rinot teaches the wireless communication module including a radio unit (168 in figure 8), an audio CODEC (172 and 174 in figure 8), an input/output interface (198 in figure 8), and a signal process/control unit (170 in figure 8).

With respect to claim 20, Rinot teaches a communication apparatus comprising a speaker (248); a headband (106, 242) which connects to the speaker at an end thereof; a wireless communication module (162 in figure 8) coupled to the speaker; and an antenna arranged at a certain position on the headband (figure 10), and coupled to the wireless communication module, wherein the certain position is different from the end of the headband that connects to the speaker (figure 10).

With respect to claim 21, Rinot teaches the certain position corresponding to a parietal portion of a user where the user wears the headband (figure 10).

With respect to claim 22, Rinot teaches the certain position being a central part of the headband (figure 10).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,356,773 to Rinot in view of U.S. Patent Application Publication No. 2004/0253972 to Iwai et al.

Claim 2 requires a flexible circuit board on which the antenna is mounted. Mounting an antenna on a flexible circuit board is well known in the art, as is evidenced by Iwai (806 and 808 in figure 8A). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to one having ordinary skill in the art to utilize a flexible circuit board with an antenna in the system of Rinot. The motivation

Art Unit: 2821

for doing so would have been to create a more compact antenna capable of being folded in order to fit into a small cavity.

Claim 3 requires the flexible circuit board be provided at a predetermined inclination angle to a mounting surface at the certain position of the headband. As shown by Rinot (figure 10), the headband of the headset will be directly on top of a user's head, and the antenna will be attached thereto. Although not specifically stated, it is inherent that the inclination angle of the antenna will be set at a predetermined angle in order to allow it to operate at a level of maximum efficiency and to avoid noise or interference from the user's head.

7. Claims 7-9, 16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,356,773 to Rinot in view of U.S. Patent Application Publication No. 2003/0210801 to Naksen et al.

Claims 7 and 16 require the headband have an elastic member connected at two places in an inside area of the arc portion, and the elastic member being arranged apart from the antenna. Such a configuration is well known in the art, as is evidenced by Naksen (40 in figure 3). At the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize an elastic member in the system of Rinot. The motivation for doing so would have been to provide a more comfortable structure to rest against the user's head, as is suggested by Naksen (paragraph 0053) and to provide a structure which more securely fastens the headset to the user's head.

With respect to claim 8, Rinot teaches a communication apparatus comprising a speaker (248); a headband (106, 242); a wireless communication module (162 in figure 8) coupled to the speakers; and an antenna (166 in figure 8) arranged on a substantially central part of the headband (figure 10), and coupled to the wireless communication module. Claim 8 requires a pair of speakers rather than the single speaker taught by Rinot (figure 10). Naksen teaches a headset with two speakers (figure 3). At the time of the invention, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a second speaker in the system of Rinot. The motivation for doing so would have been to provide a speaker for each of the user's ears.

With respect to claim 9, Naksen teaches a pair of ear pad parts attached to the pair of speakers respectively (70 in figure 3).

With respect to claims 19, Rinot teaches the wireless communication module including a radio unit (168 in figure 8), an audio CODEC (172 and 174 in figure 8), an input/output interface (198 in figure 8), and a signal process/control unit (170 in figure 8).

8. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,356,773 to Rinot in view of U.S. Patent Application Publication No. 2003/0210801 to Naksen et al as applied to claims 7-9, 16, and 19 above, and further in view of U.S. Patent Application Publication No. 2004/0253972 to Iwai et al.

Claim 14 requires a flexible circuit board on which the antenna is mounted. Mounting an antenna on a flexible circuit board is well known in the art, as is evidenced by Iwai (806 and 808 in figure 8A). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to one having ordinary skill in the art to utilize a flexible circuit board with an antenna in the system of Rinot. The motivation for doing so would have been to create a more compact antenna capable of being folded in order to fit into a small cavity.

With respect to claim 15, Rinot teaches the antenna being located at the substantially central part of the headband (figure 10).

#### ***Allowable Subject Matter***

9. Claims 4 and 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or suggest one or more of the limitations found in dependent claims 4 and 10-12. With respect to dependent claims 4, the prior art of record fails to teach or suggest a second antenna arranged at the end of the headband, and coupled to the wireless communication module. With respect to dependent claim 10, the prior art of record fails to teach or suggest the wireless



Art Unit: 2821

communication module being arranged at one of the ear parts. With respect to dependent claims 11 and 12, the prior art of record fails to teach or suggest a second antenna being arranged at one of the ear pad parts.

### ***Response to Arguments***

11. Applicant's arguments with respect to claims 1-3, 5-9, 14-16, and 18-22 have been considered but are moot in view of the new ground(s) of rejection.

12. The rejection of claims 4 and 10-12 has been withdrawn. Claims 4 and 10-12 are now indicated as allowable subject matter, as outlined above.

### ***Citation of Pertinent References***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patent documents further show the state of the art with respect to headsets including communication modules:

- a. U.S. Patent No. 4,041,497 to Palmaer
- b. U.S. Patent No. 5,886,667 to Bondyopadhyay
- c. U.S. Patent Application Publication No. 2004/0242278 to Tomoda et al.
- d. U.S. Patent Application Publication No. 2005/0017911 to Lee

Art Unit: 2821

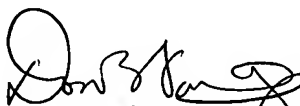
***Communication Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A. Al-Nazer whose telephone number is 571-272-1938. The examiner can normally be reached on Monday-Friday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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